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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/971,851	11/17/1997	LOYD R HORNBACK III	53249USA5A	4843

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ART UNIT	PAPER NUMBER
1764	22

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Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No.	Applicant(s)
	08/971,851	HORNBACK III ET AL.
Examiner	Art Unit	
Hien Tran	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 January 2002.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 12-16,18-20 and 23-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 26 is/are allowed.
- 6) Claim(s) 12-16,18-20,23-25 and 27-37 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
2. Claims 28-33, 37 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 28, line 10 the phrase of "that is not perpendicular" is nowhere disclosed in the original specification.

In claim 29, line 5 it is unclear as to where it is disclosed in the original specification.

In claim 31, line 2, it is nowhere disclosed in the original specification. See claim 37 likewise.

In claim 32, lines 2-3, it is nowhere disclosed in the original specification. See claim 33 likewise.

Applicant is required to cancel the new matter in the reply to this Office Action.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 12-16, 18-20, 23-25, 27, 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, line 11 "undesirable" is vague and indefinite.

In claim 28, line 10 it is unclear as to where the phrase of "not perpendicular" is disclosed in the original specification.

In claim 29, line 5 it is unclear as to where it is disclosed in the original specification that "no score-line is located proximate to said larger radius of curvature".

In claim 30, it is unclear as to what structural limitation applicants are attempting to recite.

In claims 31 and 37, it is unclear as to where the phrase of "without removing any of said sheet material" is disclosed in the original specification.

In claims 32 and 33 it is unclear as to where it is disclosed in the original specification. Since pressure is not a part of the apparatus, it is unclear as to what structural limitation applicants are attempting to recite.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 12-16, 18-19, 23-25, 27, 32, 34-37 are rejected under 35 U.S.C. 103(a) as obvious over JP 61-89916.

JP 61-89916 discloses a pollution control device and a method of making a mounting article comprising for a pollution control device:

providing a housing 3 containing a pollution control element 2 and said mounting article 1 disposed between the housing 3 and the pollution control element 2; wherein the mounting article 1 comprising a sheet material 1 having a major top and bottom surfaces, a thickness, a length, a width and having a plurality of score lines in the top and bottom surfaces of the sheet material 1.

JP 61-89916 further discloses that the score lines are disposed across the longer direction of the sheet material which appears to be the direction of the gas flowing (Fig. 2) and therefore meets the instant claim.

Even if it is not, then it would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines, such as parallel to the flow of gas on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results, since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines and since applicants also admit on page 6, lines 28-31 that the score lines can extend in any direction: across the width or the length of the sheet material, i.e. parallel or perpendicular to the gas flow.

With respect to claims 14-15, 35, 36, JP 61-89916 discloses that the score lines are disposed across the length or width of the sheet material 1 (see Fig. 1).

With respect to claim 16, Fig. 1 of JP 61-89916 shows that the depth of the score line appears to be within the range of 5-90% of the thickness of the sheet material 1.

With respect to claim 19, JP 61-89916 discloses that the sheet material 1 is ceramic fiber.

With respect to claims 13, 18, 24-25, JP 61-89916 discloses that the sheet material has at least one score line in the both top and bottom surfaces.

With respect to claim 23, JP 61-89916 discloses that the monolith has round shape (Fig. 2).

With respect to claim 27, the score-line of JP 61-89916 appears to be U-shape (see the groove in Fig. 1).

With respect to claim 32, since pressure is directed to method claim and is not a part of the apparatus, the apparatus of JP 61-89916 meets the instant claim.

With respect to claim 37, it would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines.

8. Claims 16, 19-20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-89916 as applied to claims 12-16, 18-19, 23-25, 27, 32, 34-37 above and further in view of JP 2-61313.

With respect to claims 16, 20, the depth of the score line of JP 61-89916 appears to be within the range of 5-90% of the thickness of the sheet material and therefore it meets the claims.

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In any event, it would have been obvious to one having ordinary skill in the art to select an appropriate depth for the score line on the basis of its suitability for the intended use as a matter of obvious design choice, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 19, JP 61-89916 discloses that the sheet material comprises ceramic fiber. JP 2-61313 discloses that the sheet material comprises inorganic fiber, vermiculite, etc., i.e. intumescent material. It would have been obvious to one having ordinary skill in the art to select an appropriate material, such as intumescent material, as evidenced by JP 2-61313, on the basis of its suitability for the intended use as a matter of obvious design choice, as such is conventional in the art and no cause for patentability here.

With respect to claim 23, JP 2-61313 discloses that the monolith has round shape (Fig. 2). It would have been obvious to one having ordinary skill in the art to select an appropriate shape for the monolith, such as the round shape as taught by JP 2-61313, since such shape is conventional in the art and no cause for patentability here.

9. Claims 28-31, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-89916 in view of Corn (5,332,609).

The same comments with respect to JP 61-89916 apply.

Corn discloses the oval shape for the pollution control element. It would have been obvious to one having ordinary skill in the art to select an appropriate shape for the pollution control element, such as the oval shape taught by Corn, as such oval shape is conventional in the art and no cause for patentability here.

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10. Claims 12-16, 18-20, 23-25, 27, 32, 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2-61313 in view of JP 61-89916.

JP 2-61313 discloses a pollution control device and a method of making a mounting article comprising for a pollution control device:

providing a housing containing a pollution control element 1 and said mounting article 5 disposed between the housing and the pollution control element 1; wherein the mounting article 5 comprising a sheet material 5 having a major top and bottom surfaces, a thickness, a length, a width and having a plurality of score lines 11 in the top and bottom surfaces of the sheet material 5.

JP 61-89916 discloses that the score lines are disposed across the longer direction of the sheet material which appears to be the direction of the gas flowing (Fig. 2). JP 61-89916 also discloses that any shape, any number or any arrangement can be used for the score lines.

It would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines, such as parallel to the flow of gas on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines and since applicants also admit on page 6, lines 28-31 that the score lines can extend in any direction: across the width or the length, i.e. parallel or perpendicular to the gas flow.

With respect to claims 14, 18, 35-36, JP 61-89916 discloses that the score lines are disposed across the length or width of the sheet material.

With respect to claim 19, JP 2-61313 discloses that the sheet material is vermiculite.

With respect to claim 13, JP 2-61313 discloses more than one score line.

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With respect to claim 15, JP 61-89916 discloses that the score line extends across the length or width of the sheet material and therefore is perpendicular to the width and the length, respectively.

It would have been obvious to one having ordinary skill in the art to select an appropriate length and orientation for the score lines, such as the one taught by JP 61-89916 in the apparatus of JP 2-61313, on the basis of its suitability for the intended use as a matter of obvious design choice.

With respect to claims 16, 20, the depth of the score line of JP 61-89916 appears to be within the range of 5-90% of the thickness of the sheet material and therefore it meets the claims. In any event, it would have been obvious to one having ordinary skill in the art to select an appropriate depth for the score line on the basis of its suitability for the intended use as a matter of obvious design choice, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 23, JP 61-89916 discloses that both the top and the bottom surfaces of the sheet material have a plurality of score lines.

With respect to claim 24, JP 2-61313 discloses that the sheet material has at least one score line in the bottom surface facing the pollution control element 1 (see Fig. 2).

With respect to claim 27, the score-line of JP 2-61313 appears to be U-shape (see the groove in Fig. 2).

With respect to claim 32, since pressure is directed to method claim and is not a part of the apparatus, the apparatus of JP 2-61313 meets the instant claim.

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With respect to claim 37, it would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines.

11. Claims 28-31, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2-61313 in view of JP 61-89916 and Corn (5,332,609).

The same comments with respect to the JP references and Corn apply.

***Allowable Subject Matter***

12. Claim 26 is allowed.

***Response to Arguments***

13. Applicant's arguments filed 1/15/02 have been fully considered but they are not persuasive.

Applicant argues that the JP 61-89916 does not disclose the use of the score lines extending in a direction parallel to the flow of gas through a pollution control element to relieve surface tension in the sheet material. Such contention is not persuasive as the parallel extending of the JP reference has been discussed above. With respect to the limitation of "relieve surface tension in the sheet material" or "avoid undesirable cracking or breaking of the seal", it should be noted that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use

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must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Applicants' argument with respect to the orientation of the grooves in JP 61-89916 is noted. However, the phrase of "the grooves extend in the length direction of the material" can be implied either way: e.g. parallel or perpendicular to the gas flow depending on the length and diameter of the honeycomb carrier.

In any event, JP 61-89916 discloses that any shape, any number or any arrangement of the grooves can be used for the score lines.

Furthermore, applicants also admit on page 6, lines 28-31 that the score lines can extend in any directions: across the width or the length, i.e. parallel or perpendicular to the gas flow.

Therefore, it would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines as disclosed by JP 61-89916, such as parallel to the flow of gas on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results.

### *Conclusion*

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is 308-4253. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knodel can be reached on 308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

*Hien Tran*

HT  
April 8, 2002

**Hien Tran**  
**Primary Examiner**  
**Art Unit 1764**